

IN THE CLAIMS

1. (original) Process to extract and concentrate tannin from solid natural products containing it, said process comprising the steps of subjecting the solid products to an extraction by percolation with water and/or steam as solvent and concentrating the thus obtained tannin solution by nanofiltration with spiral wound membranes, said membranes being selected among the polyethersulfonic or polyamidic ones.
2. (canceled)
3. (original) Process according to claim 1 wherein the membranes have spiral wound modules with spacing in the range 30-120 mil.
4. (original) Process according to claim 1 wherein the membranes have spiral wound modules with spacing in the range 30-90 mil.
5. (original) Process according to claim 1 wherein the membranes have spiral wound modules with spacing in the range 40-50 mil.
6. (currently amended) Process according to claim 1 wherein the extraction is carried out with water at temperature $90^{\circ} - 115^{\circ}\text{C}$ and at pressure $P = 0 - 0.3$ MPa, the pH of water being ~~comprised~~ between 1 and 6 and an efficacious mutual movement between the solid and the solvent being provided by means that mechanically move the solid and means that circulate the solvent during the extraction.
7. (original) Process according to claim 1 wherein the extraction is carried out in a closed cycle with at least one extractor, the tannin solution being collected at the bottom of the extractor and being recycled, at least once, to the top of the extractor or, in case of more than one extractor, to the top of the next extractor.

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8. (original) Process according to claim 7 wherein the tannin solution is recycled from 6 to 10 times per hour.
9. (original) Process according to claim 1 wherein the percolation solvent flows parallel to the main axis of the extractor, going in contact with the solid material with water and/or steam jets directed from top to bottom and/or from bottom to top of the extractor.
10. (original) Process, according to claim 1 wherein the length of the extraction cycle is 3 - 4 hours.
11. (currently amended) Process according to claim 1 wherein the solvent is sent to the solid product in a turbulent manner by means of sprayers and circulation pumps.
12. (previously presented) Process according to claim 1 wherein the extraction is followed by a further a flotation/sedimentation stage through which the solution coming from the extraction settles and all floating parts therein contained are eliminated with a skimmer and all thickened muds at the bottom of it are eliminated with a scraper, said flotation/sedimentation stage being followed by a filtration stage to stop particles up to 10 μm thus obtained, the tannin solution being nanofiltered at least once.
13. (original) Process according to claim 12 wherein the filtration is carried out by basket and/or leaf filters.
14. (original) Process according to claim 1 wherein the nanofiltration is carried out at $P = 3.5 - 4.0 \text{ MPa}$ and $T = 50 - 70 \text{ }^{\circ}\text{C}$.
15. (original) Process according to claim 1 wherein the water outgoing the nanofiltration step is recycled as solvent to the extraction unit.
16. (original) Plant to extract and concentrate tannin from natural solid products containing it, characterised by comprising an extraction unit (1) in which the

solid material is subjected to an extraction by percolation with water and/or steam as solvent and a nanofiltration unit operating with spiral wound membranes, said membranes being selected among the polyethersulfonic or polyamidic ones.

17. (canceled)
18. (original) Plant according to claim 16 wherein the nanofiltration unit comprises at least one spiral wound membrane with 30-120 mil spacing.
19. (previously presented) Plant according to claim 16 wherein the extractor is a cylindrical vessel with the bottom in the shape of frustum of cone, on top of said extractor being positioned a charging hopper and a valve; inside the extractor being positioned at least a device to move the solid; the water and/or the steam for percolation are sent to the solid material in a turbulent manner by a device provided with sprayers at said bottom an intake being further positioned that, connected to a circulation pump, allows to send the water/tannin solution from the bottom to the top of the same extractor or to the next one and a valve allowing to unload the exhausted solid when the extractor is emptied.
20. (original) Plant according to claim 16 wherein the extractor further comprises a vibration device.
21. (original) Plant according to claims 20 wherein the vibration device is a piezoelectric transducer.
22. (previously presented) Plant according to claim 16 further comprising, in relation of co-operation: a flotation/sedimentation unit and a filtration unit from which the tannin solution is drawn to be sent to the nanofiltration unit.
23. (original) Plant according to claim 22 in which the filtration unit comprises basket and/or leaf filters.

24. (previously presented) Process according to claim 12 further comprising an intermediate storage between the flotation/sedimentation stage and the filtration stage.
25. (previously presented) Plant according to claim 19 wherein the bottom of the extractor is further provided with an additional spraying device.
26. (previously presented) Plant according to claim 22 further comprising an intermediate storage unit after the filtration unit from which the tannin solution is drawn to be sent to the nanofiltration unit.